Recovery Plan Action Status

Plan Name: Lesser Long-nosed Bat
Plan Status: Final
Plan Date: 04-Mar-97
Lead Agency: USFWS
Lead Office: Arizona Ecological Services Field Office
((602) 242-0210)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	432	Describe migration and use pattern between roosts (both maternity to maternity and maternity to post-maternity). Movements of bats between roosts clearly occurs, but it is not clear where bats in a particular roost came from. Knowing this information would assist in determining effects ofactions that may affect one or another roost, clarify census counts, and development of management plans for roosts and forage plant habitats.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Research: Migration	Contract, Species Expert	AGFD and The Arizona-Sonora Desert Museum just finished up a project related to this activity. A citizen-science cooperative project is ongoing looking at hummingbird feeders to track use patterns. Future work is anticipated.

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Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	1	433	Describe factors involved with abandonment ofroosts. How and why bats abandon roosts is partially understood, but additional information on the threshold level of disturbance needed to refine management of roosts and determine levels of disturbance that can be allowed for research. Other factors that need to be examined are the timing of the disturbance, types of disturbances, and the time needed to recolonize an abandoned roost. Understanding how bats use roosts in concert with each other will contribute to this research.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Management: Land Use, Management: Planning	Internal Field Assistance, Species Expert	No activity specific research is occurring on this activity, however, agency folks continue to monitor roost for disturbance and document its effects.
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	1	111	Administrative actions. Agencies should develop management plans for known roosts that provide restriction or closures to human access during all times when bats are present. Agencies should evaluate and implement protective mechanisms available to them under State and Federal laws.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Management: Land Use	Internal Administrative, Internal Technical Assistance, Species Expert	Some roost sites have managment plans, others do not. Efforts are underway for some that do not have plans.

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Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	112	PhysicaL protection. If found to be necessary by monitoring of roost sites, protection of roosts with gates and other physical barriers should be considered. It is important that gating or fencing be "bat friendly", i.e. should be easily traversed by bats and should not unduly expose them to terrestrial or aerial predators.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Management: Habitat Maintenance and Manipulation	Contract, Internal Field Assistance, Species Expert, Volunteer	Some efforts already at Bluebird and State of Texas roosts; other efforts planned at Copper Mtn. and Coronado National Monument. State of Texas currently has steel test gate that is showing promise
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	113	Interagency cooperation. Communication between agencies and other interested parties in the location and conditions at known or newly located roosts is essential. It is especially important to keep roost visits to the minimum needed for monitoring. A central repository for roost information, such as the Arizona Natural Heritage database, would facilitate information exchange.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Management: General, Management: Planning, Research: Population Surveys	Internal Administrative, Internal Technical Assistance, Species Expert, Volunteer	AGFD is currently facilitating coordination, but many agencies and individuals are working in a coordinated effort.
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	1	114	Law enforcement. Enforcement of all pertinent laws and regulations should be provided all known roost sites.	Ongoing Current	FY 1995 - FY 1999	FY 2012		Other: Law Enforcement, Other: Regulations	Internal Administrative, Internal Field Assistance, Internal Technical Assistance	Ongoing as needed and reported; USFWS permitting and enforcement a key part of this.

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Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	1	121	Develop a monitoring protocol and schedule. Accurate census techniques need to be developed that minimize disturbance to the bats but which provide reliable estimates ofpopulation sizes. V. and D. Dalton are developing techniques using infrared video equipment that may address some of these issues. Other methods should also be evaluated. Alternate low-tech methods are needed for censusing most Mexican roosts. Because ofthe fluidity ofpopulations ofthis bat, the scheduling ofannual censuses at roosts is critical. Scheduling may need to be flexible enough to ensure roosts are occupied at the time ofthe census.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Management: Planning, Research: Demographic Studies, Research: Management Techniques, Research: Population Surveys	Contract, Internal Field Assistance, Species Expert, Volunteer	UofA has been contracted to gather field data to assist the Lepto working group to develop a more statistically rigorous monitoirng protocol. Coordination with Mexico needs improvement.
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	122	Establish one or more locations for the deposition of annual census and other data. The conduct of annual censuses and other activities pertaining to this species needs to be coordinated between appropriate U. S. and Mexican agencies.	Partially Complete	FY 1995 - FY 1999	FY 2012		Management: General, Other: Administration	Internal Administrative, Internal Technical Assistance	AGFD has a pretty good system for U.S.; still need to coordinate with information from Mexico.

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Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	1	131	Surveyliistoricallyi=nownroosts.If it does not already exist, a central database of known roost sites needs to be established. These include, but should not be limited to, roosts in Arizona, Sonora, and Baja California mentioned earlier in this plan. These roosts should be visited at appropriate times ofthe year to ascertain their use by L. curasoae. In visiting these roosts, care must be taken to avoid unduly disturbing the bats.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Research: Demographic Studies, Research: Migration, Research: Population Surveys	Contract, Internal Field Assistance, Species Expert, Volunteer	Pretty good ongoing efforts from agency folks, species experts, and volunteers; need better coordinated efforts with Mexico. UofA and AGFD contract efforts in 2010 and 2011 will enhance this work.
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	132	Survey for new roosts. It is likely that new roosts of this bat will be located in the United States and Mexico. Preliminary surveys should be conducted in the off-season whenmigrant bats are absent from their spring and summer roosts. Presence of pollen splats and cactus seeds and pulp are reliable indicators of the use of a roost by Leptonycteris bats. Suspected roosts should be cautiously revisited during the spring or summer.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Management: Planning, Research: Migration, Research: Population Surveys	Contract, Internal Field Assistance, Species Expert, Volunteer	A number of new roost have been found in recent years; need to coordinate efforts better with Mexico to provide support for their efforts. Contract work with the AGFD through a Showing Success grant, as well as the Citizen Science hummingbird feeder project should allow us to find more new roosts over the next two years.

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Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	1	211	Describe landscape features of suitable foraging habitat. Information on densities of forage plants, spatial relations between areas identified as used by bats and timing of food availability should be collected to assess the need to protect or manage forage plant habitat to provide adequate forage opportunities.	Ongoing Current	FY 1995 - FY 1999	FY 2012		Management: Habitat Maintenance and Manipulation, Management: Land Use, Research: Habitat Requirements, Research: Migration	Contract, Graduate Student, Internal Field Assistance, Species Expert	Some work on this by species experts and grad students; ongoing efforts by agency monitoring.
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	3	212	Clarify the role ofthe lesser long-nosed bat in pollination and seed dispersal in forage plantspecies. Although much is known about the role this species plays, there is an ongoing controversy that should be addressed. Resolution of this issue would contribute to the development offorage plant management plans.	Partially Complete	FY 1995 - FY 1999	FY 2012		Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Migration	Contract, Graduate Student, Species Expert	Some work in both Mexico and US by grad students; additional work needed.

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Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	213	Describe effects of human uses on populations of forage plants. The loss or decline in forage plant populations due to urban development, livestock grazing, recreation, harvest for commercial purposes (examples are sale of cacti and use of agave heads for mescal production), introduction of non-native plant species and other factors is a significant threat to the long-term stability of lesser long-nosed bat populations. Effects to foraging areas around roosts and along migratory paths should both be considered in this evaluation.	Partially Complete	FY 1995 - FY 1999	FY 2012		Management: Habitat Maintenance and Manipulation, Management: Land Use, Research: Habitat Status	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	Some work completed by grad students and species experts; more work needed on urbanization and in Mexico.

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Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	1	22	Administrative/management actions. Federal and State agencies should develop long-term strategies to maintain the health of columnar cactus and agave populations on their lands. Development ofstandards that assess the likely importance of specific plant stands as a food resource for fruit eating bats would facilitate management planning in areas around roost sites. Agencies should evaluate and implement protective mechanisms available to them under State and Federal law.	Ongoing Current	FY 1995 - FY 1999	FY 2012		Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning, Research: Habitat Requirements, Research: Habitat Status, Research: Migration	Contract, Graduate Student, Internal Field Assistance, Species Expert	Primarily accomplished through the agencies involved in section 7 consultations
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	23	Interagency cooperation. Communication between agencies and other interested parties on issues related to food plants, especially the effects ofmanagement actions and condition and distribution of food plants, is essential to maintain the viability ofthe resource. Information on continuing losses to forage habitat should be compiled by agencies in a common repository.	Ongoing Current	FY 1995 - FY 1999	FY 2012		Management: Planning, Other: Information and Education	Internal Administrative, Internal Technical Assistance, Species Expert	Primarily accomplished by agency coordination meetings and professional meetings.

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Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	1	24	Law enforcement. Enforcement of all pertinent laws and regulations will provide some level ofprotection for food plants. Additional legal protection for forage plants, especially in Mexico, should be sought.	Unknown	FY 1995 - FY 1999	FY 2012		Management: Land Use, Other: Law Enforcement, Other: Regulations	Internal Field Assistance, Internal Technical Assistance	Unsure how much of this is going on. Land management agencies have primary responsibility, but some USFWS responsibility if actions rise to level of take.
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	3	31	Designed educational programs for the u.S. and Mexico. In the U.S., this task should involve a cooperative effort between state and federal agencies and Bat Conservation International (BCI). A similar cooperative effort needs to be established between appropriate Mexican federal and state agencies and BCI.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Other: Information and Education	Contract, Internal Administrative, Internal Technical Assistance, Species Expert, Volunteer	A cooperative effort by FWS, AGFD, and BCI has lead to workshops designed to promote bat conservation, monitoring, and research in Mexico. This action is everyones responsibility and some good work has been done in both the US and Mexico, but more work is needed.
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	3	32	Implement the educational programs. Educational programs are only ofuse if completed and presented to the public. Agencies and other involved parties should take the necessary steps to provide this information to the public.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Other: Administration, Other: Information and Education	Contract, Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Everyone needs to continue to implement this action. From 2008 - 2010, bat conservation and monitoring workshops have been help in Sonora, Mexico through a cooperative effort of FWS, AGFD, and BCI.

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Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	41	Determine the microclimatic and physical conditions present in representative maternity and post-maternity roost at times of occupancy. Leptonycteris bats occupy some caves and mines but not others. We currently do not understand how different physical and biological factors influence roost choice in this bat. A comparison ofthe physical features of occupied and unoccupied (or abandoned) roost sites could help to answer questions regarding roost choice. We need to know much more about factors that are responsible for changes in roost use to understand the dynamics of L. curasoac populations.	Ongoing Current	FY 1995 - FY 1999	FY 2012		Research: Habitat Requirements	Contract, Graduate Student, Internal Field Assistance, Species Expert	Some work completed, AGFD currently looking at modeling effort in US and Mexico.
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	421	Determine the reproductive cycle. We need answers to the following questions. Do females residing in Mexico and the U.S. give birth to one or two young per year? How long do females and their recent offspring remain together? Do females and their recent offspring migrate together or independently? How do young bats learn migratory routes?	Ongoing Current	FY 1995 - FY 1999	FY 2012		Research: Demographic Studies, Research: Genetics	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	Ongoing monitoring is giving us some of this info; good work done in Mexico, but more needed; grad student at UofA working on genetics

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Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	422	Determine the mating system. Currently unanswered questions include: where does mating take place and what is the form of the mating system? Are adult males sexually active year-round? How does the mating system influence the genetic structure of this bat within and between roosts?	Ongoing Current	FY 1995 - FY 1999	FY 2012		Research: Demographic Studies, Research: Genetics	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	Again, some work done with Mexico in the lead; additional work needed; UofA grad student working on genetics.
Lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)	2	431	Describe exit behavior and develop range of density figures for visual counts. There is a question as to how bats leave the roost to forage. Whether there is or is not swirling at the entrance to the roost can greatly influence counts. Different roosts may also have different exit patterns. There is information on densities of bats in the roosts, but it would be useful to refine these figures for use in census efforts. Declines or increases in bat populations cannot be documented without accurate census data.	Ongoing Current	FY 1995 - FY 1999	FY 2012	Other	Research: Management Techniques, Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Some information available; use of infrared video helping, but still needs work. Work in 2009 and 2010 at State of Texas and under the UofA contract will help us understand this issue better.